35

Richard Dutton, 15 Cherry St.

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Tobacco

On Tetanus from Wounds.

Tetanic complaints have been divided into two kinds - Idiopathic and Symptomatic; the latter is by far the most common in our climate, and has the higher claims to our consideration. The different species, which Nosologists have distinguished; viz: Opisthotonos, Emprosthotonos, &c. being but one, and the same disease, in different grades of violence or situation, I shall not notice. Such systematic refinements having, I believe, become almost obsolete.

Wounds, on any part of the body, may produce Tetanus, but the most liable, are those of the scalp, the hands or the feet: they may be either incised, contused, lacerated or punctured; but more frequently the latter.

The symptoms may appear at an indefinite length of time from the reception of the injury, until the wound has entirely healed. If the wound has proceeded to inflammation, suppuration or granulation, the first warning that the patient has of his approaching danger, is the unhealthy aspect of his sore. If it was inflamed and painful, the pain and inflammation seems to have subsided, without any evident cause; if suppuration had supervened, instead of a laudable pus, there is frequently a discharge of a thin white appearance; if granulations have arisen, they appear soft, and of a pallid hue. About this time, there is an indescribable uneasiness of the system generally; with lassitude and indisposition to exercise; soon after, a sense of rigidity arises in the back part of the neck, with pain, extending downwards. As the rigidity increases, deglutition becomes difficult, attended

with uneasiness about the root of the tongue.
Whilst this is going on, a violent pain frequently commences at the scrobiculus cordis, of a nature not easily described; which sometimes extends into the back, attended with rigidity of the muscles of the thorax. At this time the lower jaw becomes obstinately fixed; and the muscles of the face, assume what has been denominated the cynic smile. Now also, if the disease is going to be violent, the muscles of the back become affected with spasmodic rigidity, drawing the head forcably backwards; sometimes the spasms extend down the lower extremities, and the patient, when lying on his back, is thrown upwards, forming a curve, resting only on his head and heels. The disease may now be said to have fully formed; the spasms recur every two or three minutes, especially, if there be any noise or disturbance about the patient; or, frequently if only liquids be offered; in this respect, resembling

Hydrophobia. The pulse, in the commencement, is frequently full and strong; but, as the disease advances, it generally diminishes, or assumes an action lower than that of nature. The bowels are universally slow. There is often a febrile appearance of the tongue.

The disease continuing, sometimes the spasms of the muscles of the lower jaw, and those of the thorax, seem to be diminished in energy, or go entirely off; whilst those of the back and neck become more violent, or, others, which were before not affected, take on the spasmodic action; as those of the abdomen and larynx. Suffocation arises, with great anxiety and distress, and thus, or with one universal convulsion, the wretched sufferer finds relief in the arms of death.

Seeing that all those effects are produced, in consequence of a wound received, we are naturally led to inquire into the proximate

cause, or, what is the same thing, the disease itself. From analogy to other diseased actions, let us seek for a theory, that will account for the astonishing change wrought upon our patient in the course of a few hours; and, from which may be deduced, a practice best adapted to the removal of his complaint.

Previous to the attack, we shall find the inflammatory symptoms subside, and sensibility in the part greatly diminished; and, I presume, in the exact ratio, that the muscles elsewhere are affected. Hence, may we not infer, that, this action in the part originally injured, and which we call inflammatory, instead of being confined and located where it ought to be, is thrown off upon the muscles, giving to them an increased excitement, which produces the spasmodic action, characteristic of the complaint.

That the muscles are predisposed to take on this diseased action, I infer from the

fact, that the disease is of more common occurrence in warm weather, or, in warm climates where a laxity of fibre prevails; and also, among negroes, whose fibre partake very largely of the same disposition.

We have a striking analogy of the translation of local action, in what takes place in retrocedent gout, which goes far in illustrating the action of the disease in question. When gout attacks the stomach, the action, which was before in the feet, disappears, and, as is universally admitted, becomes seated in that viscus, and in order to relieve it, remedies are administered to restore it, to its former situation. Moreover, we have cases on record, in which tetanic symptoms came on in consequence of gout.

Among the causes, which practical writers ascribe to the production of idiopathic tetanus in warm climates, are exposure to cold, night

air and moisture, obstructed perspiration, &c. These are among the causes, which in our climate induce acute rheumatism. The action here is modified by peculiarity of constitution and other circumstances; yet we often find it approaching tetanus, in the slight affection, familiarly denominated a stiff neck.

Baron Storck, of Vienna, relates the case of a patient labouring under rheumatism, in whom there was "universal stiffness even to tetanus." And, Dr. Stoll describes a case of opisthotonus from gout. In these instances, we find the translation of morbid action meeting, exactly, at the point of tetanus.

Another proof, of the correctness of this theory, is, that in preventing the disease, we endeavour, by general and local means, to invigorate the system, and continue inflammation, in the wounded part. Thus we prevent the muscles from taking an excessive

excitement. — But, when the morbid action becomes fixed in the muscles, it produces derangement in every function, that is ready to sympathize with them: the bowels become constipated; the pulse more or less enfeebled, indicating a loss of excitement, which becomes morbidly accumulated in the muscles.

It may be objected to these views, that the inflammation in a wound, so slight as that made by a needle, would not be sufficient to produce all those constitutional effects; but do we not often find a hectic fever, which threatens dissolution, excited and kept up by a very small abscess? This proves that the system is susceptible of taking on a high grade of disease, from very slight causes, and, which would seem to be disproportionate to the exciting cause.

It has been said, that the nerves being injured, accounts for this diseased action, by producing irritation. I admit, that the nerves are injured. But do not the nerves participate in inflammation, and are they not the media through which diseased action is propagated?

Before entering upon the mode of treatment that may be deduced from these pathological views, I shall relate a case, which I have received through the politeness of my friend, Dr. Baker, of Chester County, in this State, as illustrative, both of the above, and what is to follow. The patient I saw, at several different times, whilst under treatment.

"On the 23rd. of last June, Lewis, a black boy, aged 16 years, received a puncture from a nail, near the external metatarsal bone of the left foot, which went on to

inflammation and suppuration until the 28th. in the evening, five days after the accident, when the pain abated, suppuration ceased, and the patient felt an indescribable uneasiness throughout the system, with lassitude and indisposition to exercise.

29th. In the afternoon, after having indulged himself in lounging about, sometimes upon the ground, sometimes on the floor between doors; - the symptoms increased to an alarming degree. At 8 o'clock I found him sitting upon a chair, with his head fixed in an erect position, or rather inclined backwards: His jaws were so far stationary, as only to admit the handle of a spoon; attended with pain in the nape of the neck and back of the head; a peculiar uneasiness under the inferior portion of the sternum, and rigidity of the muscles of the chest.

His pulse was preternaturally slow, full and strong. Opened the wound to the bottom, and dressed it with caustic potash.— No stools since the 27th.— exhibited Calomel & Jalap each grs. x v.

30th.— 2nd. day of the attack— Cathartic had operated— Symptoms about as yesterday— removed the dressing of the wound, and exhibited Laudanum ʒj every two hours.

3rd. Day. About 10 o'clock A.M. there was an increase of the symptoms; pain along the spine, with violent spasms, extending into the lower extremities, forming every 3 or 4 minutes a complete arch between the head and heels; also, considerable rigidity in the muscles of the arms; jaws not so much fixed, but considerable spasm in the muscles of deglutition and of the face, particularly, when liquids were offered. Wound stationary—

renewed its dressings, and exhibited Laud. ℥j in a wine glass full of brandy every two hours.

4th Day – Symptoms, as yesterday – wound torpid – continued the medicine.

5th day – Symptoms, much aggravated – Spasms, more violent and frequent. The wound still torpid – General itching along the back and over the breast. – Tongue furred. – Renewed the dressings and continued the Laudanum and brandy. – –

6th. day – The same, as yesterday. – Medicine and dressings continued.

7th day. – Morning. – Remains the same. The quantity of Laud. diminished to ℥ss. every two hours.

8 O'clock P.M. Took blood ℥4 vj. Laid the wound open to the bottom, by a free incision extending about 3 inches in length +

and one inch in depth, and dressed it with pulv. cantharides and Spts. of turpentine. The blood drawn was sizzy.

8th. day— Muscles of the face relaxed— Spasms removed, from the muscles of the thorax, to those of the abdomen— frequency and violence of the spasms of the back diminished. Exhibited Carb. ammonia grs. x b. every two hours; and laudanum ℥ss. in the intervals; also, opium grs. ij & calomel grs. viij, in divided portions, within 12 hours.—

9th. day. Symptoms appear much aggravated, a painful sensation of bursting, in the abdomen. No appearance of inflammation or suppuration in the wound; removed its last dressings. Discontinued the Ammonia. Laudanum exhibited in dose of ℥j every hour & a half.

Evening. Took blood ℥j & bj. Has had a

number of stools through the course of the day.

10th. day - Abdomen nearly clear of spasm, none along the back and the face quite tranquil. But the muscles of the throat and chest appear much affected - complains of suffocating. Bled him ℥xx. He became quite easy before the blood was stopped, and fell into a slumber. Wound still dry - no appearance of suppuration.

11th. day - Morning - Spasms of the chest and throat returned with increased violence, and closing in upon their victim, barred admission to the "breath of life."

From this interesting case, we learn, that, after the disease had became fully established, Laudanum, and other stimulants, being prescribed, had no good effect whatever; but on the

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contrary, seemed rather to aggravate the symptoms. But, when bloodletting and other evacuating remedies were employed, the symptoms were much alleviated. As the foregoing pathological views would presume, these acted, particularly the bleeding, by equalizing excitement.

I would, therefore, from the views I entertain of the nature of this complaint, and, from what I have seen of it, if called in after the incipient stage had passed, make a bold and free use of the lancet, as recommended by Doctr. Cloxe in his lectures; and "keep the patient on the verge of the grave." This is a desperate practice, it is true, but we must bear in mind, that, we have a desperate disease to contend with.

Wine, opium and other diffusible stimulants have been recommended, and sometimes, have proved successful. But, whenever their administration has been attended with success,

I greatly suspect, that, they have been prescribed in the forming stage, and thus, they have quelled it by overcoming its yet feeble action, with their more powerful impression: nearly in the same manner, that Doctr. Chapman recommends checking a catarrhal affection; - with this difference, that they increase and support the inflammatory action in the wound.

It might, therefore, be eligible, if called before the disease had become fully developed, to endeavour, by a generous use of wine, brandy or opium, to crush it, whilst yet in its infancy. But much of this must be left to, the skill and judgement of, the practitioner. The practice, employed by Doctr. Hartshorne, of this city, by the use of caustic to the back part of the neck, would be very applicable here, if the symptoms continued increasing. And I presume,

great advantage might even arise, from the application of a blister along the whole course of the spinal column. But, in all cases, the wound should be opened to the bottom and dressed with the most stimulating articles.
It is unnecessary to enlarge, further, upon the many medicines which have been proposed, and employed in this disease. But, in whatever stage we attack it, or, whatever remedies we use, let them be carried to the greatest extent; lest, whilst we are trifling with ordinary quantities, our patient sinks into eternity.

Having, now, brought to a conclusion my Inaugural Thesis, and, as it contains some opinions, which have originated with myself, I submit it, with due deference, to those, who are to decide upon its merits.